

# LN122D

## GaAlAs Red Light Emitting Diode

For Optical Fiber Communications and Control Systems

### ■ Features

- High-power output
- High-speed modulation (10MHz)
- High coupling characteristics used with plastic fiber
- Red radiation:  $\lambda_P=660\text{nm}$
- TO-18 standard package

### ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Power Dissipation	$P_D$	120	mW
Forward Current (DC)	$I_F$	40	mA
Pulse Forward Current	$I_{FP}^*$	200	mA
Reverse Voltage (DC)	$V_R$	3	V
Operating Ambient Temperature	$T_{opr}$	-25 ~ +85	°C
Storage Temperature	$T_{stg}$	-30 ~ +100	°C

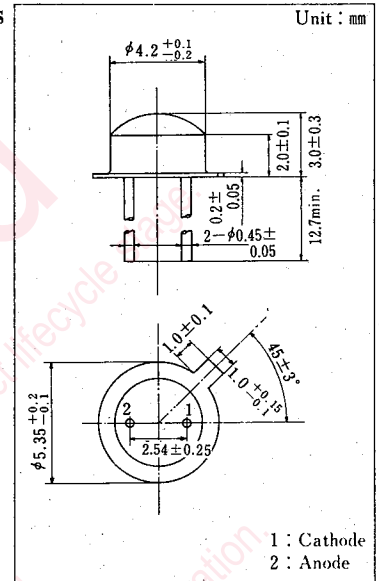
\*  $t_w = 10\mu\text{s}$ , Duty Cycle=10%

### ■ Electro-Optical Characteristics (Ta=25°C)

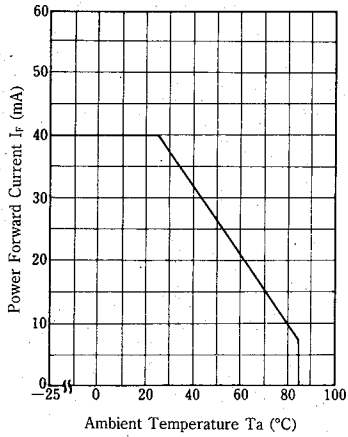
Item	Symbol	Condition	min.	typ.	max.	Unit
Optical Power Output	$P_o^*$	$I_F = 20\text{mA}$	400			$\mu\text{W}$
Peak Emission Wavelength	$\lambda_P$	$I_F = 20\text{mA}$		660		nm
Spectral Band Width	$\Delta\lambda$	$I_F = 20\text{mA}$		20		nm
Forward Voltage (DC)	$V_F$	$I_F = 20\text{mA}$		1.8	2.6	V
Reverse Current (DC)	$I_R$	$V_R = 3\text{V}$			10	$\mu\text{A}$
Beam Half Angle	$\theta$	Measured from the optical axis to the half power point		80		deg.
Response Time	$t_r, t_f$	$I_{FP} = 200\text{mA}$		30		ns

\*  $P_o$  Classifications

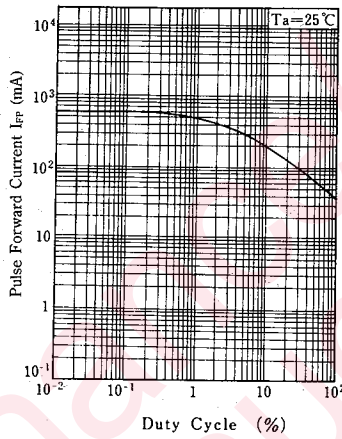
Class	R	S	T
$P_o(\mu\text{W})$	400~900	700~1200	>1000



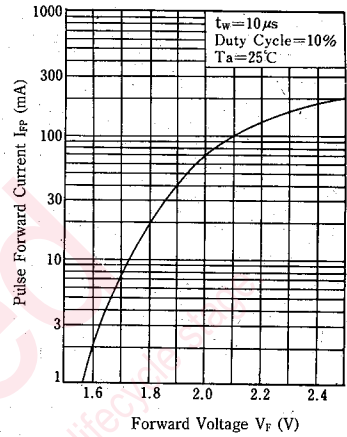
### $I_F - T_a$



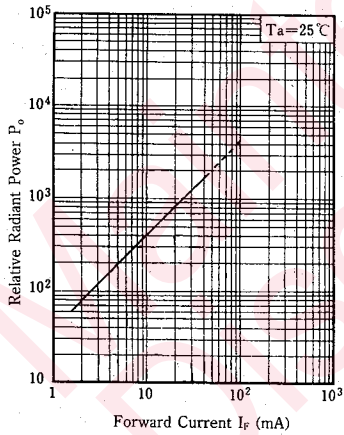
### $I_{FP} - \text{Duty Cycle}$



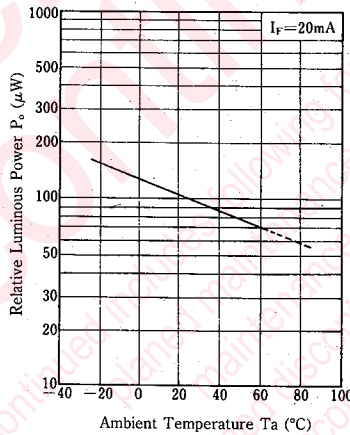
### $I_{FP} - V_F$



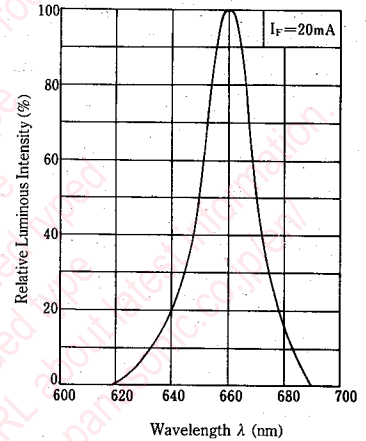
### $P_O - I_F$



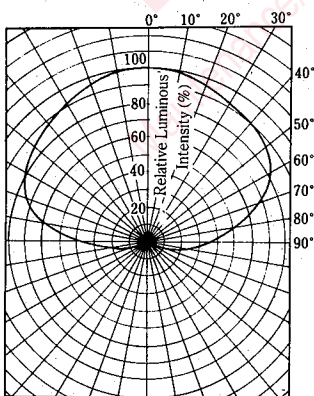
### $P_O - T_a$



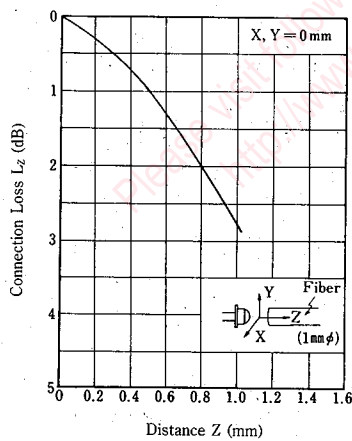
### Spectral Characteristics



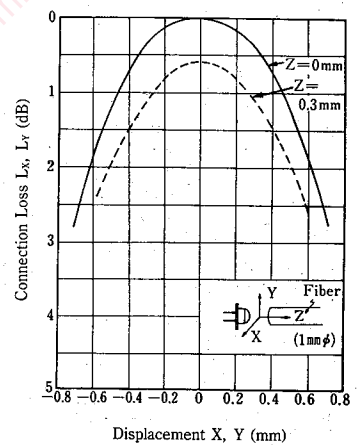
### Directional Characteristics



### Coupling Loss Characteristics



### Coupling Loss Characteristics



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